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New Genera of Old World Sphecidae (Hymenoptera) ¹

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The two new genera described here are an outcome of research directed towards a generic revision of the Sphecidae. This study is being conducted by R. M. Bohart and the author. Because the revision, when published, will emphasize the genera of the New World, we are publishing descriptions of new exotic genera in separate papers so that they can be given fuller treatment.

I am indebted to Dr. Edgar Riek, C.S.I.R.O., Canberra, Australia, for sending an example of "*Scricophorus*" *abnormis* Turner and other Australian Sphecidae.

LARRISSON ³ Menke, new genus

Type of genus: *Scricophorus abnormis* Turner, 1914.

Generic characters (based on male only): Antenna short, low on face, sockets contiguous with frontoclypeal suture, flagellomeres about as broad as long, male with 11 flagellomeres (Fig. 1); eyes diverging above and below (Fig. 1); ocelli normal; clypeus with a simple median truncate lobe; mandible with broad external notch, inner margin with two weak teeth (Fig. 1); no

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³ *Larra* and *Nysson*, referring to the combination of features which superficially suggest that this genus is intermediate between the Larrinae and the Nyssoninae.

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malar space; mouthparts very short; occipital carina disappearing just before meeting hypostomal carina; thorax compact, pleural details as in Fig. 2, propodeum very short, dorsal area very narrow and enclosure not defined, propodeum with a stout, rounded projection posterolaterally (Fig. 2); media of forewing interstitial with cu-a, and diverging from M + Cu at an obtuse angle; marginal cell truncate apically and appendiculate, second submarginal cell triangular but not petiolate and receiving only the second recurrent vein (Fig. 5); media of hind wing diverging from M + Cu well beyond cu-a; jugal lobe small, about two-fifths the length of the anal area; foretarsal rake present; forecoxa without posteromedian projection or tuft of setae; foretrochanter and femur not notched or otherwise excavated; midtibia with one apical spur; mid- and hindtibiae with several parallel rows of short, stout spines; hindfemur with a subapical carina on which are numerous, small, short spines (Fig. 6); tarsomeres II-IV of middle and hind legs short, triangular and strongly flattened, tarsomere V not enlarged, claws simple and pulvilli small (Fig. 6); abdomen sessile (Fig. 3), tergite I truncate basally, tergites I and II with lateral carinae, tergite VII broadly triangularly flattened but pygidium not defined by carinae; pygostyles absent; sternite II with a thick, transverse flange, sternite VIII as in Fig. 4; genital capsule with simple volsella, gonoforceps with dense tufts of hairlike setae, and a pair of narrow appendages on inner surface (Fig. 7).

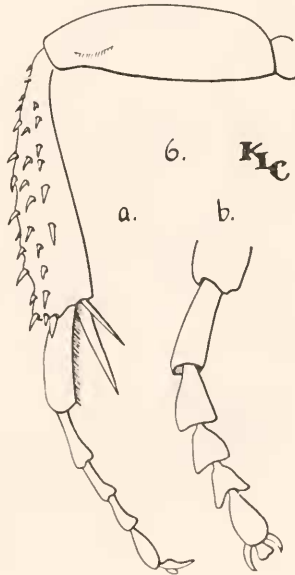
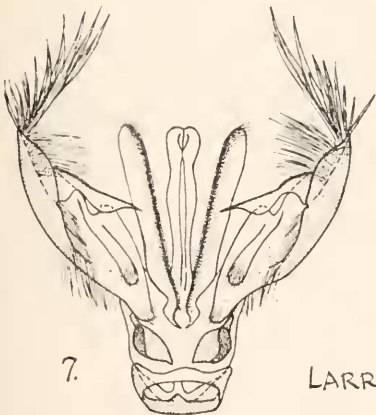
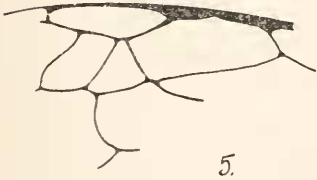
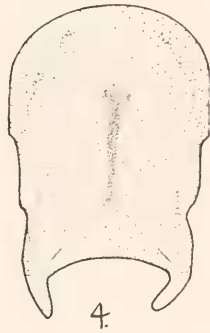
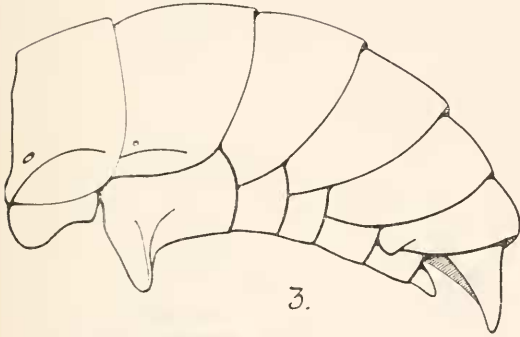
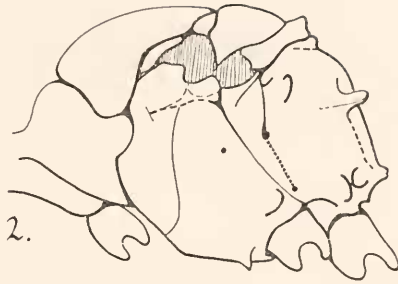
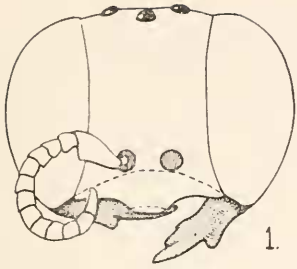
Included species: *Sericophorus abnormis* Turner, 1914.

Distribution: Australia.

Discussion: The single midtibial spur, wing venation, low placement of the antennae, external notch of the mandible and the simple volsella place *Larrisson* in the subfamily Larrinae. The normal ocelli and small hindwing jugal lobe ally the genus with the tribe Miscophini.

FIGS. 1-7. Genus *Larrisson* (all figures are of male).

1, head; 2, lateral view of thorax; 3, lateral view of abdomen (8th segment not shown); 4, eighth sternite of abdomen; 5, portion of forewing showing marginal and submarginal cells; 6, hind leg in lateral view (6a), in dorsal view (6b—tarsus only); 7, ventral view of genitalia.



LARRISSON

Larrisson may be related to the group of endemic Australian miscophine genera (*Scricophorus*, *Sphodrotes*) that Turner (1914) considered as a subfamily, the Paranyssoninae (which also includes the Ethiopian and Oriental genus *Paranysson*). However, without knowledge of the female, it is difficult at this point to ally *Larrisson* definitely with any of the genera in this assemblage.

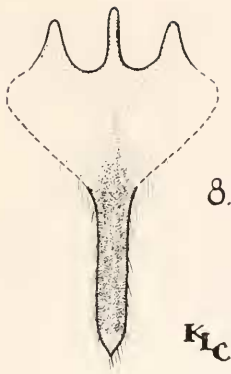
Larrisson differs from *Scricophorus* in the following points: male with 13-segmented antenna (12 in *Scricophorus* males), male abdominal sternite II with a thick transverse flange (none in *Scricophorus*), occipital carina not attaining hypostomal carina (occipital carina strongly indicated at juncture with hypostomal carina in *Scricophorus*), the strongly flattened tarsomeres, unenlarged tarsomere V and small pulvilli (tarsomeres not flattened, V and pulvilli usually greatly enlarged at least on front legs in *Scricophorus*), large volsella (greatly reduced in *Scricophorus*), and the partial pygidium in the male (none at all in *Scricophorus*). Although some *Scricophorus* species have a posterolateral carina on the propodeum which sometimes forms a blunt tooth or angle (*S. relucens* Smith for example), these do not approach the prong found in *abnormis*.

In some respects, the genus *Sphodrotes* appears close to *Larrisson*. This genus has 13-segmented male antennae, an occipital carina which fades just before joining the hypostomal carina, somewhat flattened tarsomeres and small pulvilli, and a small posterolateral tubercle on the propodeum. *Sphodrotes* differs from *Larrisson* in the other characters listed in connection with *Scricophorus* however, and furthermore, it has a petiole second submarginal cell which receives both recurrent veins.

On the other hand, the true affinities of *Larrisson* may be with one of the two isolated larroid genera, *Palarus* and *Helio-causus*. The abdominal structure is similar in all three of these

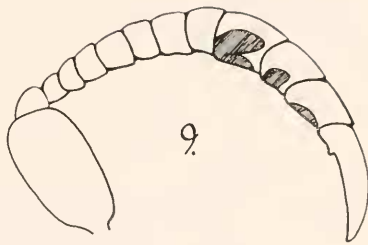
FIGS. 8-13. Genus *Afrogrytes*

8, eighth sternite of male; 9, male antenna; 10, female head; 11, latero-ventral view of thorax; 12, hind leg; 13, abdomen in lateral view (7th and 8th segments not shown).

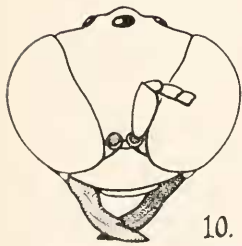


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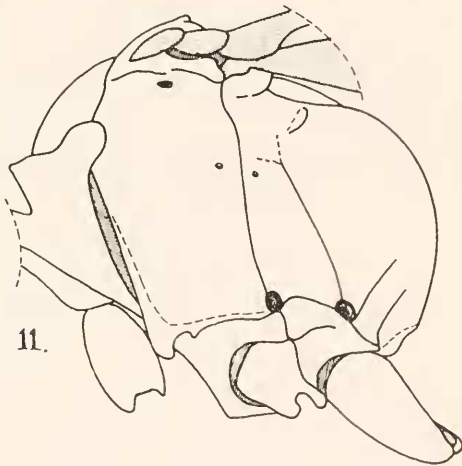
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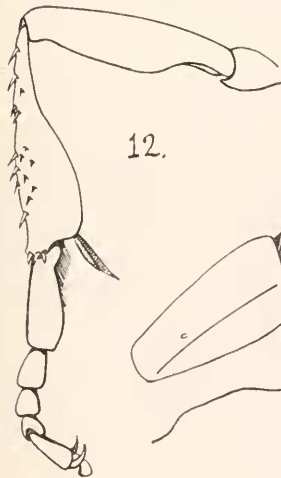
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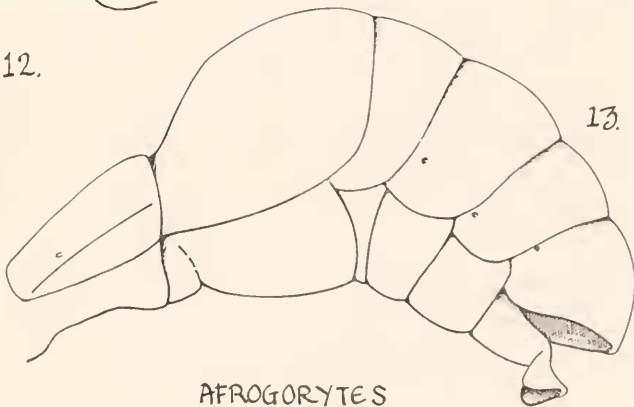
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13.

AFROGORYTES

genera, and other resemblances especially with *Palarus* can be found in the antenna, thorax, legs, wings, and subgenital plate.

AFROGORYTES⁴ Menke, new genus

Type of genus: *Gorytes monstrosus* Handlirsch, 1894.

Generic characters: Antenna short, basal flagellomeres about as long as wide, distal articles longer and with concavities ventrally in the male on VIII to XI, terminal flagellomere elongate and arcuate in male (Fig. 9); eyes strongly converging below, frons narrowest at antennal sockets, which are low on face, nearly contiguous with frontoclypeal suture (Fig. 10); labrum protruding slightly beneath clypeus; mandible subapically dentate within; mouthparts very short; vertex behind ocellar triangle mound-like; gena broad but occipital carina angling forward below, becoming evanescent towards mandible base; female foretarsal rake present; pronotal collar short, closely adhering to scutum; lateral margin of scutum with an oblique carina opposite posterior edge of tegula, setting off a posterolateral declivous area; mesopleuron without episternal and scrobal sulci, omalulus represented by a strong carina which forms a large tooth-like projection below at its juncture with the acetabular carina and sternaulus (Fig. 11), mesosternal area behind acetabular carina very short (Fig. 11); metapleuron wide, broadest below; propodeum without a stigmatal groove, propodeal enclosure well defined, triangular; forewing media arising from M + Cu before cu-a, stigma small, veinlet of second submarginal cell between recurrent veins shorter than parallel veinlet opposite, and about one-tenth as long as first discoidal cell; hindwing jugal lobe about two-fifths as long as anal area, media diverging from M + Cu at or just beyond cu-a, cu-a leaving M + Cu at a right angle but then curving abruptly basad; trochanter of middle leg with a small dorsomedian tooth; hind femur excavated basally (Fig. 12); hind tarsomeres short and broad (Fig. 12); abdomen subpetiolate (Fig. 13); a well defined pygidium pres-

⁴ Africa and *Gorytes*, referring to the distribution of this genus.

ent in female; male sternites without specialized transverse rows of dense fimbriae; eighth sternite as in Fig. 8.

Included species: *Gorytes monstrosus* Handlirsch, 1894, *G. silverlockei* Turner, 1913, *Arpactus gibbosus* Arnold, 1936.

Distribution: Africa.

Discussion: *Afrogorytes* is related to the gorytine genus *Hoplisoides* but differs chiefly in the form of the metapleuron; the strongly cariniform omaulus with its ventral process; the short, broad, hind tarsomeres; the more strongly converging eyes and the subpetiolate abdomen. The sixth male abdominal sternite in the species studied terminates in two lateral downturned lobes which may be of generic importance (Fig. 13).

Arnold (1929) placed *silverlockei* in synonymy with *monstrosus* but this may prove to be an error. The species studied in connection with this description and the one from which the illustrations have been made appears to agree best with *gibbosus* Arnold.

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A summary of present knowledge that begins with a chapter on the organization of the nervous system based on electromicrographs, and proceeds to tell what is known of the chemical and physiological events during transmission.